ZZ1/nd3 3/9/2020

FILED
03/09/20
03:59 PM

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation pursuant to Senate Bill 380 to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility located in the County of Los Angeles while still maintaining energy and electric reliability for the region.	Investigation 17-02-002

ADMINISTRATIVE LAW JUDGE'S RULING PROVIDING UPDATES ON HYDRAULIC MODELING RELIABILITY SIMULATIONS AND SENSITIVITY CASES

Summary

On January 4, 2019, the assigned Commissioner and assigned Administrative Law Judge (ALJ) jointly issued the *Assigned Commissioner and Administrative Law Judge's Ruling Adopting Scenarios Framework and Closing Phase 1 of Investigation 17-02-002*. The Scenarios Framework, attached as Appendix 2 to the ruling, describes the modeling approach for this proceeding. Since that time, Energy Division (ED) has acquired the Synergi model and will perform part of the simulation work. ED will provide effective oversight of Southern California Gas Company (SoCalGas) as it performs the rest of the simulations. Furthermore, ED has determined that seasonal simulations, rather than monthly simulations, will provide the necessary and adequate information. As a result of stakeholders' feedback and new information, ED will reduce the number of reliability and feasibility simulations.

The assigned ALJ seeks comments from the parties on the revisions to the reliability simulations and the clarifications to the hydraulic simulations to ensure that the Commission maximizes transparency and accuracy in its modeling efforts. Comments are due 15 days from the issuance of this ruling. Reply comments are due within 21 days of this ruling.

1. Hydraulic Modeling Update

On April 4, 2018, the Commission ordered SoCalGas to undertake the hydraulic modeling, with Los Alamos National Laboratory (LANL) to oversee and independently evaluate the hydraulic modeling results.[1] In the time since then, ED has acquired the modeling program Synergi and will use it to conduct a portion of the hydraulic modeling. The modeling cases numbered 1 through 28 are listed in Table 1 below.

Table 1

Case #	Year Studied	Operating Condition Peak (1-in-10) Extreme Peak (1-in-35)	Outages U: Unplanned P: Planned	Assumed Zonal Capacity (Southern, Northern, Wheeler Ridge)
Base	**Reliability - SoCalGas staff with LANL and CPUC oversight**			
1	Winter 2020	Peak	U	85%, 85%, 100%
2	Summer 2020	Peak	U	85%, 85%, 100%
3	Winter 2025	Peak	U	85%, 85%, 100%
4	Summer 2025	Peak	U	85%, 85%, 100%
5	Winter 2030	Peak	U	85%, 85%, 100%
6	Summer 2030	Peak	U	85%, 85%, 100%

[1] Administrative Law Judge's Ruling Announcing Contract with Los Alamos National Laboratory, Ordering Southern California Gas Company to Undertake Hydraulic Modeling, Setting Forth Next Steps and Seeking Comment From Parties, April 4, 2018, at 1.

Case #	Year Studied	Operating Condition Peak (1-in-10) Extreme Peak (1-in-35)	Outages U: Unplanned P: Planned	Assumed Zonal Capacity (Southern, Northern, Wheeler Ridge)
7	Winter 2020	Extreme Peak	U	85%, 85%, 100%
8	Summer 2020	Extreme Peak	U	85%, 85%, 100%
9	Winter 2025	Extreme Peak	U	85%, 85%, 100%
10	Summer 2025	Extreme Peak	U	85%, 85%, 100%
11	Winter 2030	Extreme Peak	U	85%, 85%, 100%
12	Summer 2030	Extreme Peak	U	85%, 85%, 100%
Base	**Sensitivity - CPUC staff with LANL and SoCalGas input**			
13	Winter, 2020	Peak	None	100%, 100%, 100%
14	Winter, 2020	Peak	U	100%, 100%, 100%
15	Winter, as needed	Peak	None	100%, 100%, 100%
16	Winter, as needed	Peak	U	100%, 100%, 100%
17-22	Six cases with range of inventory level at gas storage fields.	Peak	U	TBD
Base	**Feasibility - CPUC staff with LANL and SoCalGas input**			
23-28	Up to four winter months and two summer months, 2020	Typical	U+P	TBD

SoCalGas will run the core Reliability Assessment cases, numbered 1 through 12. The hydraulic modeling runs shall be completed and shared

informally with ED staff on or before June 8, 2020. ED staff will run sensitivities on the Reliability Assessment cases numbered 13 through 22, as well as the Feasibility Assessment cases numbered 23 through 28 in Table 1. The exact composition of the Feasibility Assessment cases has not yet been determined. The March 2020 Modeling Schedule Update, which will be available on the CPUC website, will reflect the impact of these changes on the overall schedule.[2]

2. Changes to Reliability Simulations

Originally, the Scenarios Framework included monthly reliability simulations for nine months, which amounted to 18 simulations for the reliability of the near-term 2020 scenario.[3] ED staff will use the modeling scenarios to assess the reliability of the SoCalGas pipeline network assuming different pipeline outages. ED staff proposes to reduce the number of cases to be modeled based on new information derived from analysis of historical gas demand and weather patterns. There are three main reasons why the number of simulations should be reduced. First, there is little benefit in running monthly simulations since the non-Aliso storage fields will be modeled as full regardless of the month.[4] Second, it has been determined that winter and summer peak demand months are variable, but generally similar. For that reason, one month in each season can be modeled as representative of the season. Lastly, this decision

[2] Schedule updates are posted under "Other Documents" on the CPUC website at: www.cpuc.ca.gov/alisooii.

[3] Assigned Commissioner and Administrative Law Judge's Ruling Adopting Scenarios Framework and Closing Phase 1 of Investigation 17-02-002, January 4, 2019, Appendix 2, p. 23, Table 1. The Scenarios Framework is available at: http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M258/K116/258116686.PDF.

[4] *Id.*

brings the modeling in line with the use of annual forecasts—not monthly forecasts—for gas system design standards.[5]

The Scenarios Framework directs ED to assume that gas inventory in the other three underground storage fields (Playa Del Rey, La Goleta, and Honor Rancho) are *not* functions of the month but are instead assumed at maximum inventory, while acknowledging that pipeline restrictions will affect withdrawal capacities, receipt point utilization, or a combination of both.[6] For purposes of this modeling study, we are assuming that the non-Aliso storage facilities are full, meaning we are able to reduce the number of monthly simulations. Sensitivities related to monthly storage inventory levels will explore variations in storage inventory, but the core Reliability Assessment cases are streamlined and will not need to be performed on a monthly basis.

During the first workshop on June 20, 2019, the Commission's ED staff presented analysis of the receipt point utilization and gas demand on high sendout days during 2010 through 2018, which showed that high sendout days often occurred in the month of December. Additionally, ED staff presented that high sendout days could also occur in any of the other winter months of November, January, or February, because extreme cold temperatures are the driving factor.[7] During the most recent workshop on November 13, 2019, the

---

[5] Decision (D.) 06-09-039 which clarified and updated annual standards originally adopted in D.02-11-073

[6] *Id.* Assigned Commissioner and Administrative Law Judge's Ruling Adopting Scenarios Framework and Closing Phase 1 of Investigation 17-02-002, January 4, 2019, Appendix 2 at 17-19.

[7] Technical Workshop on Hydraulic Modeling Input Data Development, June 20, 2019, slides 28 and 30. Available at: https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/Hydraulic%20Modeling%20Updates%20Final%202019_06_20.pdf.

hydraulic modeling input data development document verified SoCalGas and San Diego Gas and Electric (SDG&E) 1-in-10 and 1-in-35 design temperatures and peak gas demand forecasts for the near term.[8] For SoCalGas core customers (retail + lost and unaccounted for gas + company use), these are 2,500-2,880MMcfd @ 42.3˚F for the 1-in-10 (Peak) and 2,700-3,100MMcfd @ 40˚F for the 1-in-35 (extreme peak).[9] For SDG&E core customers, these are 325-375MMcfd @ 44.5˚F for the 1-in-10 (Peak) and 340-400MMcfd @ 42.8˚F for the 1-in-35 (extreme peak).[10] As it stands, and as it is currently implemented by the Investor Owned Utilities, the reliability standards mandated by the Commission are annual standards.[11] In other words, the design temperature (T_{Design} or T_{min}) is a yearly minimum rather than a function of the month.

The reliability standards could be expanded from yearly standards to monthly standards, making the peak day design temperature a function of the winter month, rather than a single value for the whole winter season. In that case, monthly reliability simulations would be warranted. However, such an approach should not affect the yearly peak, because that would remain unchanged.

ED staff proposes to perform reliability simulations for only the Winter and Summer seasons of 2020, 2025, and 2030 rather than simulating nine months of 2020 using the storage assumptions indicated in the Scenarios Framework.

---

[8] Hydraulic Modeling Input Data Development: Peak Day Design and Hourly Gas Demand Profiles, November 13, 2019, slides 36 and 37. Available at: https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/Hydraulic%20Modeling%20Updates%20Nov132019%20v10%20Final.pdf.

[9] *Id.* at slide 36.

[10] *Id.* at slide 37.

[11] D.06-09-039 which clarified and updated standards originally adopted in D.02-11-073.

Instead of 18 simulations total, ED will perform four simulations (two for the 1-in-10 and two for the 1-in-35) for each study year, reducing the total number of simulations from 18 to 12.

3. The Feasibility Study

ED staff acknowledges stakeholders' input that suggested performing the feasibility study before the reliability study in order to determine the inventory levels in the storage fields. However, the current assumption regarding the storage levels in the Scenarios Framework allows the reliability studies to be completed before the feasibility study. ED staff intends to run sensitivity analysis on the inventory levels of the other three storage fields. These inventory levels will be decided after completing the first round of simulations. This approach paves the way to Phase 3 since it would provide information about the needed storage and withdrawal capacities of the other three fields rather than relying on historical data that would yield known historical outcomes.[12]

To reflect the impact of the modeling changes on the modeling schedule, ED will post a new modeling schedule to the CPUC website titled *March 2020 Modeling Schedule Update*.[13]

4. Workshop

On June 30, 2020, ED will lead a workshop to present the results of the production cost modeling and the hydraulic modeling. The workshop will take place at the Commission's Los Angeles office, located at 320 West 4th Street, Los Angeles, CA 90013. Shortly before the workshop, a ruling will provide the

---

[12] *See* Assigned Commissioner's Phase 3 Scoping Memo and Ruling, December 20, 2019. Available at: http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M322/K150/322150565.PDF.

[13] Schedule updates are posted under "Other Documents" on the CPUC website at: https://www.cpuc.ca.gov/alisooii.

public with the agenda, the webinar information, and telephone conference call-in information.

5. Party Comments

Parties are invited to provide feedback and comments. Comments are due 15 days from date of this ruling. Reply comments are due within 21 days from the date of this ruling.

IT IS RULED that:

1. For the hydraulic modeling, Southern California Gas Company will run case numbers 1 through 12 as described in Table 1 above.

2. Southern California Gas Company will share their results informally with Energy Division staff by June 8, 2020. Southern California Gas Company will present their results at the June 30, 2020 workshop.

3. For the hydraulic modeling, Energy Division staff will run case numbers 13 through 28 as described in Table 1 above.

4. Parties are requested to file and serve formal opening comments by close of business 15 days from the date of this ruling. Reply comments must be filed and served 21 days from the date of this ruling.

Dated March 9, 2020, at San Francisco, California.

/s/ ZHEN ZHANG
Zhen Zhang
Administrative Law Judge